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| APPLICATION NO.             | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|---------------------|------------------|
| 10/811,141                  | 03/29/2004  | Jin Cheol Hong       | 8733.1049.00        | 1113             |
| 30827                       | 7590        | 07/30/2007           | EXAMINER            |                  |
| MCKENNA LONG & ALDRIDGE LLP |             |                      | NGUYEN, DUNG T      |                  |
| 1900 K STREET, NW           |             |                      | ART UNIT            | PAPER NUMBER     |
| WASHINGTON, DC 20006        |             |                      | 2871                |                  |
| MAIL DATE                   |             | DELIVERY MODE        |                     |                  |
| 07/30/2007                  |             | PAPER                |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/811,141             | HONG, JIN CHEOL     |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Dung Nguyen            | 2871                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 April 2007.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 6-22 is/are withdrawn from consideration.
- 5) Claim(s) 1-4 is/are allowed.
- 6) Claim(s) 5 and 23-25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

Applicant's amendment dated 04/26/2007 has been received and entered. By the amendment, claims 1-5 and newly added claims 23-25 are remain pending in the application. Claims 6-22 stand withdrawn from consideration.

### ***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 5 and 23 are rejected under 35 U.S.C 102(e) as being anticipated by Noguchi et al, US Patent No. 4,969,718.

The above claims are anticipated by Noguchi et al. figure 5A and accompanying text which disclose an active matrix LCD comprising:

- . first, second and third data lines (515, 514 and 513);
- . a first pixel electrode (523) adjacent to the first and second data lines (515, 514);
- . a second pixel electrode (517) adjacent to the second and third data lines (514, 513);
- . a parasitic capacitance between the second electrode and the second data line inherently three times greater than that between the first pixel electrode and the first data line (since the distance between the second pixel electrode and the second data line is shorter than that between the first pixel electrode and the first data line).

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noguchi et al, US Patent No. 4,969,718, in view of Fujiyoshi, US Patent No. 6,327,008.

Regarding the above claims, Noguchi et al. disclose the claimed invention as described above except for a voltage deviation in the first pixel due to parasitic capacitance of the first pixel electrode being substantially the same that of the second pixel electrode as well as signals applying to the first and the second pixel electrodes are the same polarity and inverted for each two pixel electrode. Fujiyoshi does disclose applying signals having a same polarity and inverting for each two pixel electrodes as in figure 12A. It should also be noted that since the signals having a same polarity and inverting for each two pixel electrodes, a deviation in the first voltage of the first pixel electrode and the second pixel electrode would be cancelled (i.e., the voltage deviation in the first pixel due to parasitic capacitance of the first pixel electrode being substantially the same that of the second pixel electrode). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ signals having a same polarity and inverting for each two pixel electrode in the Noguchi et al display as shown by Fujiyoshi in order to improve a display characteristics (see Summary of the Invention).

***Allowable Subject Matter***

5. Claims 1-4 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:

None of the prior art of record discloses or suggests alone or in combination that an LCD device comprising a combination of various elements as claimed more specifically the first pixel being horizontally adjacent to the second pixel and a parasitic capacitance between the second pixel electrode and the second data line being about three times greater than a parasitic capacitance between the first pixel electrode and the first data line as set forth in claim 1.

***Response to Arguments***

7. Applicant's arguments filed 11/27/2006 have been fully considered but they are not persuasive.

First, Applicant contends that the elements (e.g., 522) identified by the Examiner are not arranged as recited in claim 5. It should be noted that the rejection is based on the element 523 (as the first pixel) next to the first data line (515) and the second data line (514) as well as the element 517 (as the second pixel) next to the second data line (514) and the third data line (513) as claimed as well.

Second, Noguchi does not explicitly disclose the values of parasitic capacitance between pixels and data lines. The Examiner agrees it; however, according to the definition of the capacitance, one skilled in the art would be able to merely find such values of parasitic capacitance between pixels and data lines.

Last, Applicant notes that a conductive pixel material would not have the same permittivity. Again, the examiner agrees that both pixels having different permittivity ( $\epsilon$ ) as well as having the same area (A) (as pointed-out during the last interview); however, the permittivity

$\epsilon \sim L^{-3}$  (wherein L is the distance between the pixel and the data line), the parasitic capacitance, therefore, between the second electrode and the second data line would at least be three times greater than that between the first pixel electrode and the first data line.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN  
07/23/2007

/Dung T. Nguyen/  
*Dung Nguyen*  
*Primary Examiner*  
*Art Unit 2871*